

## ABSTRACT

This invention provides a method for obtaining a gene involved in regulation of cartilage differentiation, in which a transcription factor, preferably Runx2/Cbfa1, is forcedly expressed in a cell that is deficient such transcription factor, preferably in a Runx2/Cbfa1-deficient chondrocyte, and the gene, the expression of which is thereby induced, is selected using DNA chip analysis, subtraction, or other means as well as a Runx2/Cbfa1-deficient chondrocyte useful for carrying out such method. The invention also provides a polynucleotide obtained by such method, a polypeptide encoded by such polynucleotide, an antibody against such polypeptide, a recombinant vector comprising such polynucleotide, a transformant comprising such recombinant DNA vector, a cell expressing such polypeptide, a transgenic animal of such polynucleotide, an animal model of a bone and/or joint disease (preferably osteoarthritis), a method for screening for a therapeutic agent and/or prophylactic agent for a bone and/or joint disease (preferably osteoarthritis) using the aforementioned objects, a candidate compound for a therapeutic agent and/or prophylactic agent selected by such method, a pharmaceutical composition for a bone and/or joint disease (preferably osteoarthritis), and a method for diagnosing such disease.